

REMARKS

The Office Action dated December 23, 2008, has been received and carefully noted. The above amendments and the following remarks are submitted as a full and complete response thereto.

Claims 1, 3-5, 9-12, 14-49 and 52-53 are pending. By this Amendment, Claims 12, 26 and 39 have been amended, Claims 50-51 have been cancelled without prejudice or disclaimer, and Claims 52-53 have been added. Support for the amendments to the claims can be found in the application as originally filed.

Applicants respectfully submit that no new matter is presented herein.

Double Patenting Rejection

Claim 26 is rejected on the ground of nonstatutory obviousness-type double patenting for being unpatentable over Claim 2 of co-pending U.S. Application No. 11/595,865 to Ueshima et al.

As far as the rejection pertains to Claim 26 as amended, Applicants respectfully request that the provisional rejection be held in abeyance until allowable subject matter is found.

Specification

The Specification is objected to as failing to provide proper antecedent basis for the claimed subject matter (e.g., information storage medium). Page 8, lines 13-15, of the application as originally filed disclose that "an external memory (ROM and/or RAM) is connected to the game processor 40 through an external bus. The external memory 44 is previously set up with a game program."

Applicants respectfully submit that the subject matter which is claimed (e.g., an information storage medium) is supported by the disclosure as originally filed to convey with reasonable clarity to those skilled in the art, as of the filing date of the application, that the applicants were in possession of the invention as it is now distinctly claimed. The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. See MPEP 2163.02.

Applicants respectfully request withdrawal of the objection.

Claim Objections

Claims 39-47 and 51 are objected to for informalities therein. Applicants have amended the claims in a manner believed to be responsive to the objection. As such, withdrawal of the objection is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 1, 3, 9, 11, 15 and 49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5,741,182, "Lipps") in view of Marinelli (U.S. Patent No. 6,157,898), and further in view of Ogawa (U.S. Patent No. 4,742,264, "Ogawa"); Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, Marinelli, and Ogawa as applied to claims 1, 3, 9, 11, 15 and 49, in view of Lipson (U.S. Patent No. 5,435,554 "Lipson"); Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, Marinelli, Ogawa, and Lipson, as applied to claim 4, in view of Tosaki et al. (U.S. Patent No. 6,312,335 B1, "Tosaki"); Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, Marinelli, Ogawa, as applied to claims 1, 3, 9, 11, 15, and 49, in view of Zur et al. (U.S. Patent No. 5,833,549, "Zur");

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, Marinelli, and Ogawa, as applied to claims 1, 3, 9, 11, 15 and 49, in view of Nomura et al. (U.S. Patent No. 5,779,555, "Nomura"); Claims 12, 18-19, 22-24, 26, 32, 35-37, 39, 41, and 44-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps; Claims 14, 27 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, as applied to claims 12, 18-19, 22-24, 26, 32, 35-37, 39, 41, and 45-48, in view of Nomura; Claims 17 and 30-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, as applied to claims 12, 18-19, 22-24, 26, 32, 35-37, 39, 41, and 44-48, in view of Zur; Claims 20, 33, 42, and 50-51 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, as applied to claims 12, 18-19, 22-24, 26, 32, 35-37, 39, 41, and 44-48, in view of Lipson; Claims 21, 34 and 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps and Lipson, as applied to claims 20, 33, 42, and 50-51, in view of Tosaki; and Claims 25, 28-29 and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipps, as applied to claims 12, 18-19, 22-24, 26, 32, 35-37, 39, 41, and 44-48, in view of Marinelli (U.S. Patent No. 6,157,898, "Marinelli").

Applicants respectfully traverse the rejections for at least the following reason(s).

Claim 1 recites a ball game apparatus that includes, among other features, a racket-type input device, a piezoelectric buzzer incorporated in said racket-type input device which outputs an acceleration correlated signal according to an acceleration upon moving said input racket-type device in the three-dimensional space, said piezoelectric buzzer having a piezoelectric ceramic plate and electrodes respectively formed on main surfaces of said piezoelectric ceramic plate, wherein said piezoelectric buzzer is arranged within

said racket-type input device in a manner wherein said main surfaces of said piezoelectric ceramic plate are in parallel with a surface of said flat ball hitting portion.

The Office Action admits that Lipps and Marinelli fail to explicitly teach that a piezoelectric device has a piezoelectric ceramic plate and electrodes respectively formed on main surfaces of said piezoelectric ceramic plate (see p. 6, last paragraph). The Office Action asserts that it would have been obvious to one of ordinary skill in the art, at the time of the Applicant's invention, to incorporate the teachings of Ogawa into the apparatus taught by the combination of Lipps and Marinelli because "through such incorporation it would provide not only a means of implementing said device but one which is conventional and thus result in a system which is easier to implement." See page 7, second paragraph. The Applicants respectfully disagree and submit that Ogawa is not analogous prior art because the subject matter with which it deals does not logically commend itself to an inventor's attention in considering the combination of Ogawa with Lipps and Marinelli (see MPEP 2141.01(a)(I)). Ogawa fails to teach or remotely suggest that the piezoelectric buzzer that is the subject matter of Ogawa's invention can be used as an acceleration sensor.

Moreover, the Office Action on page 8 admits that Lipps, Marinelli and Ogawa "fails to explicitly teach wherein said piezoelectric device is arranged within said racket-type input device in a manner wherein said main surfaces of said piezoelectric ceramic plate are in parallel with a surface of said flat ball hitting portion." Applicants' disagree with the following assertion on page 8 of the Office Action that "[i]t would have been obvious to one skilled in the art, at the time of the Applicant's invention, to position said piezoelectric device within said racket in a manner wherein said main surfaces of said piezoelectric

ceramic plate are in parallel with a surface of said flat ball hitting portion, because by placing said device in such a manner would provide the greatest surface area for said device to register contact with said ball thus resulting in more accurate measurements.”

The Applicants respectfully submit that the reasoning described above certainly is not supported, explicitly or implicitly, with respect to the disclosures of Lipps, Marinelli or Ogawa. Furthermore, official notice has never been taken for the unsupported interpretations applied by the Examiner. Lipps and Marinelli both measure a centrifugal force, and therefore, those of ordinary skill in the art would arrange the piezoelectric device in a manner that a centrifugal force can be measured by the piezoelectric device. In such a case, the piezoelectric device is arranged so as to vertically intersect with a longitudinal direction of the racket. In contrast, the piezoelectric buzzer of the present invention is arranged in parallel with a hitting surface of the racket, that is, in parallel with the longitudinal direction of the racket, and thus the piezoelectric buzzer detects an acceleration of the moving direction of the racket rather than the centrifugal force. The reason asserted as obvious by the Office Action on page 8, lines 13-15, has no relevance with regard to the reason for providing the arrangement of the piezoelectric buzzer in the present invention. Rather, as would occur to one of ordinary skill in the art, arranging the piezoelectric buzzer, as recited by Claim 1, overcomes the problems of Lipps and Marinelli. Lipps and Marinelli can only detect a rotating movement by measuring centrifugal force. If a player operates the input device, e.g., a bat or a racket, by translating the input device without rotational movement, a linear or parallel displacement, for example, no centrifugal force is generated. As such, it is impossible in the devices of Lipps and Marinelli to detect a movement of the input device unless the input device

experiences rotational movement. In contrast, by arranging the piezoelectric device as recited by Claim 1, not only the rotating movement but also the translation (parallel displacement) can be detected. According to the sign of the acceleration correlated signal in the present invention, it is possible to also distinguish whether the input device is swung in the forehand style or the backhand style, which in turn can be reflected into the game image. The detection of the centrifugal force only, as taught by Lipps and Marinelli, would not permit distinguishing between a forehand and backhand stroke, for example. Applicants disagree with the assertion on page 27, lines 8-10, of the Office Action that detecting "the rotational force or detecting parallel displacement" are not recited in the rejected claims. In the case of a racket type input device, the player essentially swings so that the hitting surface and the moving direction of the input device vertically intersect. As such, it would be clearly and easily understood by those skilled in the art that the arrangement of the piezoelectric buzzer in Claim 1 detects the acceleration of the moving direction of the racket and not simply the centrifugal force as taught by the cited prior art.

For at least the reason(s) provided above, Applicants respectfully submit that Lipps, Marinelli, and Ogawa, alone or by any combination, do not teach or suggest the present invention as recited by Claim 1. As such, Applicants respectfully submit that one of ordinary skill in the art would not have found it obvious at the time of the invention to modify Lipps according to the teachings of Marinelli and Ogawa, alone or in combination, because to do so would not arrive at the invention recited by Claim 1. Accordingly, Applicants submit that Claim 1 should be deemed allowable over Lipps, Marinelli, and Ogawa.

With respect to Claim 12, Applicants respectfully submit that Lipps does not teach or disclose, nor would it be obvious to one of ordinary skill in the art to modify Lipps to arrive at, the features of the present invention as recited by Claim 12. Rather, Lipps teaches a simulated baseball bat 4 that includes a centrifugal switch 5 to “sense the timing of the player’s swing.” The “timing” of the player’s swing is determined by the centrifugal switch 5 pressing a switch actuator 17 against a return spring 18 to close or open a switch 19. Light emitting diodes 10 thus are modulated to indicate a batter’s swing simply based on whether switch 19 is activated. See Col. 2, lines 34-45, of Lipps. Lipps does not teach or suggest a signal output means incorporated in said input device to output an acceleration correlated signal having a varying pulse width that is determined according to an acceleration of the input device in three-dimensional space or that the game processor receives the acceleration correlated signal and causes a change in a ball character being displayed on a screen based on the varying pulse width of the acceleration correlated signal, as recited by Claim 12. Rather, Lipps simply determines whether a hit has been made according to the timing of a one-time activation of the switch 19 (see Col. 3, ll. 13-16).

With respect to Claims 26 and 39, applicants respectfully submit that Lipps does not teach or disclose, nor would it be obvious to one of ordinary skill in the art to modify Lipps to arrive at, the features of the present invention as recited by Claims 26 and 39. Claims 26 and 39 similarly recite a ball game apparatus that includes, among other features, respectively, a game processor for receiving the acceleration correlated signal and determining, based on said acceleration correlated signal (or a timing that said acceleration switch is turned on) and a moving timing of said ball character that is a

position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for a movement of the ball character after a hit.

Applicants respectfully submit that it is difficult to disagree with the broad assertion made in the Official Notice taken on page 26 of the Office Action that “both the concept and the advantages of representing objects in video games in 3D, where one of said three dimensions is depth (e.g., Z), are well known and expected in the art. Thus, it would have been obvious to one skilled in the art, at the time of the Applicant's invention, to represent objects utilized in the video game taught by Lipps et al. (e.g., such as a baseball and/or baseball player) in 3D, because through the incorporation of depth it would provide a means of achieving greater realism, which is what Lipps et al. is directed toward (e.g., realism; Lipps et al. – col. 1, ll. 39-44), thus resulting in a more immersive gaming experience for a given player utilizing said system.” However obvious the concept of representing objects in 3D video games may be, the Applicants submit that the methods and features for achieving the obvious advantage of a realistic depiction in a 3D game can vary infinitely. As such, Lipps does not teach or suggest the feature that a moving direction of the ball character after the hit is determined based on the acceleration correlated signal and the moving timing of the ball character that is a position of the depth direction in the screen, as recited similarly by Claims 26 and 39. Lipps simply makes a determination whether the bat hits the ball.

For example, it is possible to direct the game along the physical theory that for a right-handed batter, for example, if the bat (input device) is swung at a time that the ball character exists at a deeper position in the depth direction of the screen, the ball character after a hit will be returned toward the left field direction, and if the bat is swung at a time

that the ball character exists at a shallower position, the ball character after a hit will be returned toward the right field direction.

As clearly understood from the Office Action, even if a 3D game is applied to Lipps, the most that can be determined is that the ball is hit by the bat, and thus, it is impossible to determine the moving direction of the ball after a hit. Lipps simply determines the presence or absence of ball impact by the timing of a centrifugal switch being turned on (col. 3, lines 12-18). Applicants respectfully submit that Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, do not teach or suggest the features similarly recited by Claims 26 and 39. In Tosaki, ball impact is determined at the timing of the depression of a trigger button (col. 16, lines 47-49). Then, the strength of the swing is calculated on the basis of the acceleration signal from the acceleration sensor, and the path of the swing is calculated based on the angle of the bat (col. 16, lines 40-47). In Lipson, the ball impact is determined at the timing of the depression of the trigger button (Step 214 in Fig. 4d). Then, the path of the returned ball is calculated based on the initial hit angle of the ball and the initial speed of the ball at the time when the ball is released from the bat (Step 426 in Fig. 7). The initial hit angle of the ball is decided by the position of the joystick at the timing of the button depression (col. 5, lines 17-18 and col. 15, line 67, to col. 16, line 2). In Marinelli, the reference is directed to a measurement device that measures the speed and parameters of the flying body by use of the acceleration meter and indicates the measured values to the player (col. 2, lines 27-35). Nomura is directed to measuring the locus and parameters of a golf ball at rest on the basis of an acceleration sensor. Zur directly states that determining values for the movement of a ball after its encounter with an implement is not the subject of the invention and therefore would not be

discussed in detail. The slight discussion discloses that the path is merely calculated based on data obtained from the game play (see col.10, lines 19-34).

For at least the reasons stated above, Applicants respectfully submit that Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, do not teach or suggest the present invention as recited by Claims 12, 26 and 39. As such, the Applicants respectfully submit that one of ordinary skill in the art would not find it obvious to modify Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, to arrive at the features recited by Claims 12, 26, and 39. Accordingly, Claims 12, 26 and 39 should be deemed allowable over Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur.

Claims 3-5, 9-11, 15, 16 and 49 depend from Claim 1; Claims 14, 17-25 and 48 depend from Claim 12; Claims 27-38 depend from Claim 26; and Claims 40-47 depend from Claim 39. It is respectfully submitted that these dependent claims be deemed allowable for at least the same reasons that Claims 1, 12, 26 and 39 are allowable, as well as for the additional subject matter recited therein.

Applicants respectfully request withdrawal of the rejections.

New Claims 52-53

Applicants respectfully submit that Claims 52-53 are allowable for at least the same reason(s) Claims 1, 12, 26, and 39 are allowable, as well as for the additional subject matter recited therein.

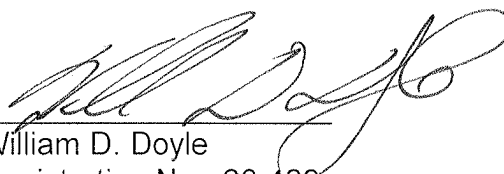
Conclusion

In view of the above, Applicants respectfully request withdrawal of the outstanding rejections, allowance of Claims 1, 3-5, 9-12, 14-49, and 52-53 and the prompt issuance of a Notice of Allowability.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 100341-00008.**

Respectfully submitted,



William D. Doyle
Registration No. 60,429

Customer No. 004372

ARENT FOX LLP

1050 Connecticut Avenue, N.W., Suite 400

Washington, D.C. 20036-5339

Tel: (202) 857-6000

Fax: (202) 638-4810

WDD:elp